

Subject: RE: P424's
Date: Fri, 26 Jan 2001 10:57:18 -0500

Dip Stick repair

I pulled the V-drive a couple of weeks ago and received a rebuild kit (400). I opened the bottom and it looks like the inside of the V-drive is fine. There's some minimal sign of rust, but I think I caught it in time. I plan to tear it down this weekend. It is possible that water got into the lower case through the dipstick hole. This could have happened if the gasket leaked in this area. I won't know until I open it up this weekend. I still think the cooling jacket rusted through.

The owner's manual suggests using marine tex to repair the water jacket. I'm undecided on replacing it yet. It depends on what I find when I open up the cases. I opened up the cooling jacket and had a chance to inspect the repair I made last summer. The marine tex seems to do a good job. There is no evidence of chipping, peeling or leaking. I'd only accept a marine tex repair if I can convince myself that the repair will last several years. Renewing the marine tex patch is pretty easy. I know someone who successfully used it to repair a crack in his engine block. I also plan to investigate having a welder repair the cooling jacket. Wish I could convert it to freshwater cooling...

Removing the V-drive was tedious, but straight-forward. It took about 4 hours to do, and was definitely a two-man lift. I'll write something up to explain exactly how to do it. The bearings look like generic automotive bearings. I'll try to match them up at the automotive store and compare prices. Gaskets must definitely be obtained from Walter, though I plan to photocopy them so I could cut my own in a pinch.

do you want to remove your anchor from the roller? I leave there all the time, except if I go offshore. Offhand, I don't have suggestions. I don't have an anchor platform, so I can't visualize what you need.

BTW: wife and daughter both passed their technician class tests, and are both licensed HAMs. I'm proud of Joann; not bad for 9 years old!

Regards Rich

From: <N3FYP@winlink.org>
Subject: RE: P424's
Date: Fri, 26 Jan 2001 21:20:00 -0000 (GMT)

Rich, thanks for keeping us informed on your V-drive repair. Especially since we're in the Boonies right now and can only hope to see a Newsletter when we get mail in Puerto Rico, it's helpful to hear about the progress in the interim.

Re: Marine Tex, I've heard some amazing stories about engine repairs using JB Weld and would think that might also work well.

To Robb, your instincts are right on target. While I'm not sure exactly what your anchor platform design is, you'll need firm support under any bow roller which will be taking the rode's load. Typically, anchor 'platforms' (Pearson 365's often came with a 'platform' that even the mfr. recommended not being used for anchoring). We anchored in a Wicamaw River tributary when above flood stage and ended up with the rode (not the anchor) under a 50' pine tree. We had to pull the bow of the boat down into the water perhaps 1/2 foot before we could lever one end of the tree loose from the bottom, and it made was rewarding to have spent the time to design a windlass & roller arrangement by which we could almost lift the boat.

Jack Tyler
Aboard WHOOSH, lying Luperon, DR

From: "Richard Carter" <rich.carter@windriver.com>
Subject: RE: P424's - V-drive & etc...
Date: Mon, 29 Jan 2001 10:40:07 -0500

I can see why you'd want to reinforce your pulpit. I suggest looking for a salvaged support before ordering one. Maybe you can find something close that can be cut to fit. You might find something someone ordered for his boat but didn't pick up, or perhaps surplus parts from a boat manufacturer. I don't know where you can find them, but there are marine surplus dealers out there. You might try D&R. That failing, you're probably forced to hire a custom welder (\$\$\$).

Even if you reinforce it, I don't recommend loading the platform, either by anchoring off it or pulling the anchor out with it. You can get a tremendous load on the rode, two thousand pounds or more! How strong would it have to be to support the weight of a small car? You might get away with loading the platform under normal circumstances, but it will eventually get you in trouble. I don't even do this with my rollers. I have all chain rode. I use a chain hook when I set the anchor. The hook is tied to the cleat through the chock with a pennant.

Since you don't use chain, I don't know how you could snub it off at the chock. Have you considered changing to all chain? I use 200' of 3/8" HT. If you are worried about the weight, you could drop down one size to 5/16". Chain has a lot of advantages. The most notable is that you can hear the boat drag if it pulls free. It is heavy though; about 500lbs for 200'.

I completely disassembled the V-drive last weekend. No sign of corrosion through the cooling jacket. There was a bad seal on the drive shaft to the prop. My guess is that the gasket wasn't seated properly the last time I cleaned out the cooling jacket. This allowed water to leak into the dip stick.

My temporary repair with marine tex was less than perfect. As expected, the inside of the cooling jacket was coated with a hard deposit similar to concrete. I suspect that it is salt. I was not able to remove all of this when I made my repair. In some places, the epoxy was laid over the salt deposit. Water can migrate through the salt and get under the patch, so the epoxy didn't adhere properly. I spent several hour yesterday removing this deposit, but it is too tenacious. I tried everything, from full strength acid to Drano. Nothing works. I had to chisel and grind it out. I couldn't get in the corners properly though. I'm planning to order a sand blaster to clean it out, then apply a proper coating of marine tex to seal the whole thing. I think the marine tex will work if it is applied to a clean surface. There was a lot of evidence of corrosion inside the jacket. Large chips of metal came out when I removed the salt deposit. The three cooling fins inside the jacket are almost completely gone. I'm still not sure that I don't have a hole through the jacket into the dip-stick tube. I won't know until I can clean it out properly. The cases are cast iron. I don't think a welder could save them if there is a hole. If there isn't, I'll coat it with marine tex and reuse the cases.

I'll also need an arbor press for the CV bearings. This is definitely a five-hammer job! I'm taking pictures and I'll write it all up.

Replacing the cases wouldn't be trivial. All the hardware would need to be removed from the old cases, I think I'd lose the studs. There

must be 40 of them. I estimate that replacing the cases would cost about \$400.

Regards Rich

Date: Mon, 29 Jan 2001 22:51:02 -0500
From: Ed Merrick <emerrick@gis.net>
Subject: Re: P424's - V-drive & etc...

Hi Rich and All,

I am wondering if Rich was able to buy the special wrenches that are required to work on the Walter Gear box. The ham fisted person who abused Indulgence's gear box before we bought her, used a cold chisel and did a lot of damage. He/she also didn't get the torque right so the gears were very noisy. The nuts on the end of the two shafts have four square notches around the perimeter. I had to buy new nuts to replace the damaged ones and then improvise tools to torque them down to 125 to 150 ft lbs.

I also got replacement bearings from a local auto parts store but Walter said they were the wrong ones and only recommended one brand. I went with Walter on this even though the bearings didn't look any different. Walter gets more money, of course, but they really do support their product, so I will not complain.

I sandblasted the case after everything was removed. I then washed the inside very well with soap and water and then paint thinner to get any grit out.

I have had seepage on the water jacket gasket and the top plate was properly seated each time. I used RTV to coat the gasket which is my successful practice on automotive jobs. Walter says to use no sealant. I will buy a new Walter gasket and try this. I have also cut my own from a rubberized paper material of the automotive sort with the same seepage. This did not happen with the original gasket the ham handed fellow presumably installed. So maybe RTV allows diffusion of salt water. The top plate sits on my work bench waiting to be replaced. I also flush with anti-freeze each fall.

I have access to an powerful press and it was very much needed for this project. A hand operated arbor press wouldn't have done the job. Various tools are also needed to get the bearings off. Do not use a hammer, you will regret it.

The anchor platform on Indulgence seems very strong. I anchor through the rollers and break them out over the roller. I have never had an anchor that required much break out force as I always get right on top of it to break it out.

When moored I use double pennants through the chocks. This allowed Indulgence to drag 4000# of granite about a half mile in a 1997 November storm. A second block has been added to the mooring. We now haul out in late September.

I am looking for ideas on how to keep from snagging lobster floats in the prop while sailing. Rich suggested a Max Prop, which is an idea I like, but it is a \$3,000 idea. The existing prop is 18x11 which I am convinced is too small for the W-58 and 2:1 reduction. I can rev to 2700 RPM easily but can't stand the noise. I settle for 6.5 Kts at 2700 RPM but I believe 7 kts at 2500 is possible with the right prop.

I got the prop shaft perfectly straight with soda can shims this spring as previously described. The vibration was way down. I think the same ham handed person had bent the gear box flange getting the

shaft out of the flange. The nut (as a spacer) between the flanges and then tightening the four bolts to extract the shaft is dangerous and commonly practiced.

Keep careful track of the shims on the shaft as you remove the parts from the gear box.

The shim washers go on just one side. I had to call Walter to be sure there was no shim on the other side. I couldn't be sure the previous person had done it right.

Ed

From: "Richard Carter" <rich.carter@windriver.com>
Subject: RE: P424's - V-drive & etc...
Date: Tue, 30 Jan 2001 10:50:53 -0500

I wish I had gotten this message last week. I damaged both nuts when removing the shafts. I wasn't aware that special tools were needed. I'll have to replace them. I have no idea where to get wrenches. Maybe I can bring them to a shop to have them torqued.

I dropped the CV joints off at my mechanic this morning. He'll replace these bearings. He matched the part numbers on the universal bearings. They come off a Chevy. He quoted me roughly \$15 per joint for replacements. I don't know what Walter charged me. Walter may inspect their parts for tolerance before stocking them. More likely, they are attempting to justify high prices for what are essentially off-the-shelf automotive parts. I'll photocopy the gaskets if anyone wants to make their own.

After removing the lock nuts, both drive assemblies came out fairly easily. I tapped them out using a wooden block and hammer. I don't think I damaged anything. I didn't have to tap hard. One of the races is still in the jacket. I may leave it there. Is there any reason I can't tap the new bearings back in with a block of wood and mallet? The parts assembly seem pretty clear about how things go back together.

After sand blasting the cases, I plan to clean them out using a power washer at the car wash. Some soap and pressure wash should remove any dirt and grease.

I pressure tested the cooling jacket last night. I plugged up one end of the jacket, and used reducers to put a pressure valve stem in the other end. I pumped it up to 25 lbs and found no leaks. At higher pressures, the gasket leaks. I won't see 25 lbs in the jacket, so there is no reason for a leak. I used a hard rubber gasket made using the real gasket as a template. When I reassemble, I'll use the proper gasket. I plan to coat the inside of the jacket with marine tex after sandblasting the sludge off. This should prolong the life of the cases.

I think I know what happened to cause this whole mess.

When cleaning out the cooling jacket, I was not careful to keep the bolt holes clean of debris. Each time I cleaned the cooling jacket, a little debris got trapped in the bottom of the holes, until finally the bolts wouldn't seat low enough to seal the cover. Without a proper seal, water leaked into the dip stick hole. I found this when I had the unit on my workbench last night. I cleaned out the holes and ran a tap into them. Owners must be careful to clean out these holes each time they clean the jacket. Cleaning should be done every three to five years. Also, it is very important to blow out the jacket after cleaning. Any residual debris will clog the engine cooling heat exchanger. I keep a scuba tank on the boat. I have an air hose adapter for the air tank that provides pressure for an air hose.

Regards Rich

Date: Tue, 30 Jan 2001 12:32:02 -0500
From: Ed Merrick <emerrick@gis.net>
Subject: Re: P424's - V-drive & etc...

Hi Rich,

If you are replacing all the bearings then disassembly with a hammer is not going to damage anything that you reuse. Bearings and races are easily damaged by shock. The metal is so hard that it is easy to produce extremely high point or line loads.

I trade so often at a local auto parts dealer that he let me use the hydraulic press for disassembly and assembly. I am surprised yours came apart so easily.

I made tools for the nuts by grinding nails to a square cross section to fit the notches in the nuts. I then found a socket that would drive the nails and nut combination. It was not altogether satisfactory. It tended to slip off and was difficult to get to the 150 ft lbs. Bearings require a "pre load" to survive. Otherwise micro impacts eat them up. Again because the metal is very hard. The torque sets this pre load. I think the sides of the case actually flex a bit. This is why shims are critical as well as bearing dimensions.

You may remember that I added a zinc to the water jacket. My Yanmar engine used this scheme so it made sense to me to use it on the gear box to prevent the cast iron from disappearing.

From: "Richard Carter" <rich.carter@windriver.com>
Subject: P424's - V-drive parts
Date: Mon, 5 Feb 2001 17:34:13 -0500

Attached, please find a list of parts included with the V-drive rebuild kit. [editor's note: see final list on pg 10] This cross-references the Walter part number to a commercial part number. Most of these parts could be obtained over the counter from an automotive store. Walter warns against obtaining parts this way. I don't know why. The CV joint kit (item 10) is a standard CV joint used in Chevrolet automobiles. The only apparent difference is that the seals are removed by Walter. I assume that this is because they get bathed in oil. Walter sells the pair for \$57.60. Most automotive stores will sell the same parts for between \$15 and \$20 each. Walter apparently marks them up an additional 100%. These CV joints are inside the case; not to be confused with the universal joint on the shaft. It may be the same part number with seals intact. I didn't order these from Walter.

After disassembling my unit, the only part that needed replacement was the drive shaft seal from the engine to the V-drive. This seal is mounted on a removable plate. It would be a simple matter to remove the shaft, then remove the seal plate without having to remove the V-drive itself. Removing the seal was very difficult. It is apparently pressed in. If owners decide to replace this seal, I suggest removing the plate (4 bolts), then send it to Walter. The shaft is not fastened to the V-drive in any fashion. It can be removed by disconnecting the universal from the engine, then pull it out. While the drive shaft is out, the CV joints can be easily replaced by any good mechanic.

After tearing the V-drive down, I decided to do a full rebuild. Had I known that a rebuild was not necessary, I would have left it alone and just replaced the top shaft seal. The only practical way to remove the two gear assemblies is with a custom pair of wrenches, not available anywhere on the planet. I fabricated a pair from two sockets by grinding them down to shape. If anyone needs to borrow these, I can lend them out. I can also send a copy of the shop manual which Walter sells for \$18.50, but failed to copy write.

My best guess is that it should take about 20 hours for an average mechanically inclined owner to do a rebuild, including pulling and replacing the unit. Several days should be reserved for the job, since you'll have to send some stuff out to have a mechanic press the CV joints. I was able to remove the other bearings myself.

Regards Rich

From: "Richard Carter" <rich.carter@windriver.com>
Subject: V-drive reassembly complete
Date: Tue, 20 Feb 2001 16:04:31 -0500

I've finished rebuilding my V-drive, and thought it might be worth writing up my notes while the memory is still fresh. I found a bad seal at the input shaft. One of the CV joints inside the case was bad too. I don't think the CV joints get well lubricated the way they are mounted. There is no way to replace the CV joint unless you completely disassemble the V-drive, but the seal can be replaced easily.

This project turned out to be a much more difficult task than I had originally expected. I had to custom fabricate tools to remove the shaft sprocket nuts. I also had to buy a torque wrench capable of measuring 200 lb-ft (JC Whitney \$12). I should have bought a press (approx \$75), and perhaps a gear puller (\$30). Walter quoted me approx \$650 for the labor to rebuild the unit, more or less. I figure more; the bill would probably be closer to \$1000, plus \$400 for parts. I saved about \$900 by doing it myself.

First, let's talk about preventative maintenance. Change the oil in the V-drive each fall, and replace with good quality 30wt oil; just shy 1 quart. When you drain the oil, look for signs of water in the oil. If there is water, the drain oil will look like chocolate milk. If you find this condition during the season, don't panic. The unit is well made, and will not fail right away. Change the oil and keep your fingers crossed that it lasts the season. Walter suggests cleaning the cooling passage each season. I agree with their recommendation. When you clean the cooling passage, keep particles from getting down the cooling system into the cooling jacket. Also, keep the bolt holes clean or the cover won't seal; vacuum if necessary. You can use the cover as a template to make your own gasket, or use my photocopy of the original. If you make your own, purchase a cheap set of punches (\$2) to cut the screw holes. Make sure that you cut out the center. There is no need for sealant.

If you find problems, you might want to remove your unit and rebuild it. I noticed that the lower bearings and seals on my unit appeared in good condition, whereas the CV joints and seal looked shabby. If you are frugal, you might want to inspect the whole thing and replace only what is necessary.

Removing the unit - Disconnect the shaft from the engine. Pull the shaft out of the V-drive. It is not attached at that end. The shaft will pull right out. Unbolt the starboard mounts from the pan. There was access under the pan to get at the nuts on the starboard side. Port side had insufficient access, so I left the mount there and unbolted the unit

from the mount. It weighs about 80lbs. Figure 3 hours and a couple of scraped knuckles to pull the V-drive. While it is out, this is a good opportunity to inspect, clean, and paint the pan.

Drain the oil. I suggest cleaning the unit before disassembly. It makes the job easier. It might be a good time to clean out the cooling jacket. I've found nothing that will dissolve the salt deposit inside the jacket. The case is less than 1/4 inch thick, so if yours looks more like 1/2" thick, you have a good deposit. It took at least 8 hours of chipping, sanding, brushing and cursing to get mine clean. I suggest checking for leaks before you proceed. This is done by pressurizing the cooling jacket with a bicycle pump. You need to get fittings from the hardware store to do this. If it leaks air, it will leak water. If you have a water leak, you might consider replacing the case. If it doesn't leak, you might want to coat the inside with marine tex after cleaning thoroughly. I plan to paint the inside of mine too to facilitate cleaning. Remove, re-tap, and replace the drain plugs in the jacket as necessary. You need a special pipe tap.

Disassemble according to the instructions in the service manual. If you want a copy, send me a self-address and stamped 9x12 envelope (6 stamps). Two of the studs had to be removed to get a wrench on the CV-Joint cover. The nuts holding the bottom cover on were difficult too. You'll need sprocket wrenches to unbolt the shafts. They are not available anywhere on the planet that I can find. You could possibly borrow mine, or fashion your own from sockets using a grinder. It took me about 2 hours to grind down a pair of sockets to fit. Take careful notes when you disassemble the V-drive. The service manual is not accurate depicting parts. I suspect that the bearings changed after they printed up the service manual. Photos help.

Resist the temptation to use a hammer to remove or replace bearings and shafts. The bearings don't like shock loads. You need a press and possibly a puller. I brought the top shaft and drive shaft to my mechanic to have him replace the CV joints. He also pressed the shafts back in. The input shaft seal was a bear to replace. I ended up taking it out in pieces.

Wire brush the outside of each case piece, avoiding the sealing surfaces. I took the case down to the car wash and gave it a good wash down with a power hose, inside and out, after brushing. Follow your notes and the service manual for reassembly. The shaft sprocket nuts are a bear to torque down. I don't think I actually got 160 ft-lbs on them. It is difficult to hold the wrench on while torquing that hard. Walter doesn't bother torquing. They use a spanner and crank it down (not to be confused with the British use of the term for a crescent wrench). Don't use a chisel to remove or replace the nuts!

Paint using your choice of colors, and reinstall. The service manual includes great instructions for aligning the unit. To my surprise, it requires alignment of the engine shaft. A gauge is needed which I purchased from Walter. My next note will include specifics about aligning the unit.

Richard Carter
Wind River Systems
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603-897-2071

Gauge

Parts List (updated)

	Description	Walter P/N	Price	MFG Part NO.	NOTES
1	Seal, Output	26-08	\$16.20	JM Clipper	15105-LDS
2	Seal, Angle Housing Cover	10-24A	\$11.34	NATIONAL 450219-SSR	
3	O-Ring & Quad Ring	10-24E	\$4.41		
4	Gasket Set	20-13-IM	\$37.80		Kit was missing #13
5	Bearings	20-14-Ball	\$45.90	SKF 7307 BECBY ADEC-3	
6	Bearings	20-14A-Ball	\$32.40	SKF 6405	
7	Bearings	20-15A	\$66.60	FAFNIR 5207K	
8	Bearings	20-15-Taper	\$39.60	Timken 061E	
9	Bearings	26-26	\$55.80	NTN 1207LIC3	
10	CV Joint Kit (2ea)	20-34A	\$57.60	Spicer 5-153X	Seals removed
11	Drive Shaft, universal CV		\$15.00	Precision 369	generic automotive

Date: Tue, 20 Feb 2001 17:22:24 -0500
From: Ed Merrick <emerrick@gis.net>
Subject: Re: V-drive reassembly complete

Hi Rich,

That is a nice job describing the gear box rebuild. I would only add the possibility of adding a zinc to protect the water jacket. West Marine has one that fits well. I may have shortened it with a hack saw. I would also like a 424 Email list. I have communicated with about 15 different 424 owners over the past 4 years. Jack Tyler, Irlin Paris, Bart Bolger, Bill Tony, Ed Engle and the Cassells come to mind. Ed Engle keeps an owners list but his Email didn't work for me last time I tried.

Look at www.WINGS424.net. Bart and Leah are headed for Miami today.

I posted a message about the raw water pump for the W-58 on the Pearson Current web site last night. I am in the process of removing the engine, mostly to get to the fuel tank, before it leaks, rather than after it leaks. I have been able to see the bronze staples in the rubber strips supporting the tank.

Anyway, I found impeller fins in both the input and output ports of my Sherwood pump. Surprise! The impeller, which I had never replaced, was in good condition. The lesson here is that not all impeller pieces make it to the heat exchanger nor do they necessarily travel down stream. Also just because the impeller looks good doesn't mean that a previous mechanic has done the whole job right. Since I am taking the engine out, removing the pump was easy. I would not have enjoyed getting the pump out while having to work around the exhaust manifold but it is possible.

Another important point! The key that drives the impeller was almost worn away. I will soon be visiting Boat U.S. to order a rebuild kit for the pump, including bearings and seal, key, cam and gasket. The cam had worn away so as to present a sharp step to the impeller. I consider Jayne and I very lucky that the pump didn't give out completely last summer while transiting the Cape Cod Canal. Ed

From: "Hank Sarkis" <hank7@mediaone.net>
Subject: Practical sailor on v-drive
Ed.

How your question in this month's Practical Sailor. My question is about the o-ring? There is no o-ring in the cover of the drive box (there should have been). Am I missing something here?

BTW, I just received a new input shaft for my v-drive -- the old one had severe corrosion (big chunks falling off). When I change the shaft, I also plan to remove the top cover & inspect the water passage (even though it was done before by the prior owner). Plan to use a light coat of Permatex on the new gasket.

Hank Sarkis
Ketch Shay Hull #90

From PS Advisor column, Vol 27, Issues 5-6, March 2001 of the Practical Sailor

Gearbox Seepage & Sealants

A friend and I both own Pearson 424s with Walter gear boxes for the "V" drive. The gear box has a water passage on top for cooling. It uses sea water. When we bought the boat in 1997, the top of this water box was nicely sealed, with no seepage. After removing the top plate and cleaning out the scale, I added a zinc to an available plug hole. When replacing the cover, I used a new gasket from Walter and coated it with RTV. Now both my friend's gear box and mine have what appears to be a white salt line around the joint of the cast iron top plate. My friend's dipstick fell off. Mine is starting to show a similar problem. The dipstick goes through the top plate and in a corner of the gear box. My question: What sealant should be used when joining cast iron parts exposed to sea water?

Ed
via e-mail

Don Chaternuck, an engineer at Walter Machine in Jersey City, New Jersey, said no sealant should be used with the gasket, which is a seal. He said RTV (besides not being needed) becomes hard and brittle and can shed particles that damage the gear box. He said Walter recently saw one on which RTV had been used that in six months scratched up the bearings so badly that it looked like they'd had 20 years of hard usage. Chaternuck said your friend's dipstick problem is not related to the sealant. He said the dipstick is aluminum, sealed and isolated by an O-ring. After simple wear from years of use (he figured your Pearsons were about 20 years old), the dipstick and the O-ring should be replaced. If you have problems, give Chaternuck a ring at 201/656-5654.

vdrive end

From: "Richard Carter" <rich.carter@windriver.com>
Subject: RE: Practical sailor on v-drive
Date: Wed, 7 Mar 2001 15:51:07 -0500

The O-Ring is on the dipstick under the handle. It keeps moisture from getting into the gearbox. I suppose you could replace the o-ring, but I wouldn't depend on it to keep water out. I see no reason to replace the dip stick unless there are signs of significant corrosion. We've exchanged several messages about the V-drive and how to rebuild it. Please let me know if you need a copy of these. Briefly, if the cooling passage gasket leaks, water can get into the gear case by leaking down the dip stick hole. If water gets down there, it can corrode the dipstick rather quickly. You shouldn't put sealant on the gasket as you noted. I wouldn't use permatex. Just make sure that you put a nice new gasket on there and make sure that the screw holes are clean so that the machine screws seat all the way down. You can

make your own gasket, or buy some from Walter. The cooling jacket walls are about 1/4 inch thick in a new gearbox. Mine were corroded down to less than half this thickness after 21 years of service. I plan to coat the inside of the cooling passage with marine tex and other coatings. I expect to get at least another ten years of service by doing this. If the jacket is kept clean and the coating renewed on an annual basis, I hope to get many more years.



My input shaft was corroded, but it was only superficial. I sanded it down, replaced the bearings, and plan to paint it and reinstall it in the next few weeks. I suppose that someone could have more significant corrosion of the shaft, but you'd need some kind of persistent problem to cause the kind of corrosion you are talking about; perhaps a bad stuffing box that causes water to spin off the drive shaft, splashing the input shaft with water. If you had this kind of problem, water probably got inside the v-drive input seal too. This seal can be replaced without pulling the V-drive, but the CV joints behind this cover may be bad. They can't be serviced unless the unit is pulled. Take an oil sample from the V-drive and see if it has water in it. You can tell by the color. If it looks like chocolate milk, you have a problem. If not, you may be OK.

The cooling passage should be cleaned on an annual basis. There are several other items in the cooling system that need regular service. I'll write something up about this in the next few weeks.

Regards
Rich

Date: Wed, 07 Mar 2001 16:02:09 -0500
From: Ed Merrick <emerrick@gis.net>
Subject: Re: Practical sailor on v-drive

Hi Hank,

I don't think anyone mentioned an "O" ring. The top plate just has a flat gasket. The original, as supplied by Walter, was about as thick as ordinary note paper. It had some tan color to it indicating that the paper was treated with something. I really wanted to know if RTV allowed sodium ion migration but that was beyond the scope of Practical Sailor. I know a chemist or two that might be able to answer that question. Rich Carter is in the process of rebuilding his gear box. He may respond further. Permatex, these days, may be RTV. I used it for many years but have bought none recently.